**Prompt 1**

**How do your interests directly connect with Cornell Engineering? If you have an intended major, what draws you to that department at Cornell Engineering?  If you are unsure what specific engineering field you would like to study, describe how your general interest in engineering most directly connects with Cornell Engineering. It may be helpful to concentrate on one or two things that you are most excited about. (250 words)**

Computers and I, we seem to have a similar predilection for straightforward, methodical, literal language. Through years of computer lessons, I’ve found joy and motivation through communicating with these marvelous machines. I’ve discovered their limitless potential as efficient and indefatigable machines, just that their capabilities are limited to the skills of the programmer. This inspired me to study programming to nurture those computers into something big, capable of changing the world for the better.

To realize this, I believe that I would require not just an abundance of knowledge, but a chance to implement those knowledge into real-life projects within a positive community. I believe that Cornell Engineering would be the best place to do so. Not only does it offer prestigious courses taught by esteemed professors like Jon Kleinberg and Kavita Bala, Cornell Engineering also provides practical opportunities to collaborate on projects with peers and faculties. Participating in Cornell’s Big Red Hacks and being a part of the Cornell AppDev will help me attain a deeper understanding of computer language through working on various projects.

I also aspire to build my own technological start-up in the future, hence looking forward to participating in Cornell’s SENSE and 3 Day Startup program to hone my entrepreneurial skills and perhaps meet some future partners along the way. Through these programs, I would get my start-up mentored by successful professors and entrepreneurs whilst exposing myself to great ideas of the other participants that might inspire my own.

**Prompt 2**

**Describe an engineering problem that impacts your local community. This could be your school, neighborhood, town, region, or a group you identify with. Describe one to three things you might do as an engineer to solve the problem. (250 words)**

Before the pandemic, my classmates and I did a social campaign teaching in public schools around Jakarta about the dangers of non-recyclable wastes. But during our campaign, we discovered an unrelated issue: The lack of educational facilities received by the public schools of Jakarta results in the inability to provide adequate practical education. The absence of laboratories and scientific equipment means that students are unable to perform experiments necessary for their education. After some digging, I found that the major cause for this is cost.

I then recalled a scene from the movie Iron Man where Tony designs his first iron suit by projecting responsive holograms and  interacting with them just like a real object. This scene opened my eyes to the potential of virtual and augmented reality technologies to replace expensive tools. I dream to create a software capable of simulating experiments within mixed reality where students can interact with the scientific equipment projected while following instructions from the software. Teachers can monitor their student’s work from a separate screen.

Instead of spending funds on expensive equipment and a laboratory, schools can instead prepare VR or AR glasses fitted with the simulation software to conduct the experiments, saving a lot of money. By conducting experiments through virtual simulations, this ensures the safety of the students. Furthermore, this solution is also safer for the environment since dangerous chemicals do not need to be used, and experiments do not produce harmful byproducts that may pollute the surroundings.